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Highlights of IAEA Waste Safety Programme

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Outline


- **Joint Convention**
- **Progress Safety Standards**
- **Protection of the Environment**
- **Environmental Assessments**
- **New International Biospheric Modelling Project (EMRAS)**

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Joint Convention

- **Status**
 - **September 2003 – 32 Contracting Parties – 1 Contracting State**
- **Meetings**
 - **Coordinators and Rapporteurs 22-23 September 2003**
 - **1st Review Meeting – 3-14 November 2003**

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Contracting Parties (Current status, September 2003 – 32 countries)

Argentina	France	Norway
Australia	Germany	Poland
Austria	Greece	Romania
Belarus	Hungary	Slovakia
Belgium	Ireland	Slovenia
Bulgaria	Korea	Spain
Canada	Latvia	Sweden
Croatia	Luxembourg	Switzerland
Czech Republic	Morocco	Ukraine
Denmark	Netherlands	United Kingdom
Finland		United States

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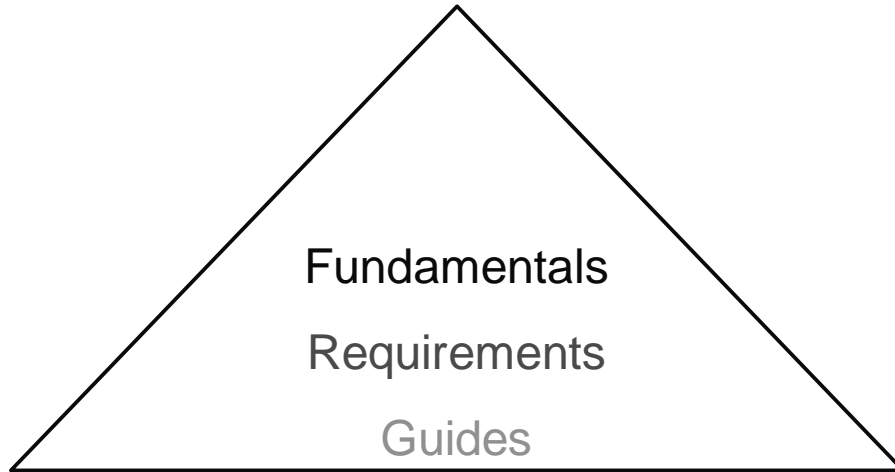
Joint Convention

- **Secretariat instructed by Contracting Parties to promote the Convention**
 - **Letter to all Member States**
 - **Information Pack**
 - **Briefings at General Conference and at Regional TC meetings**
 - **Emphasise in future Training Activities and Conferences**

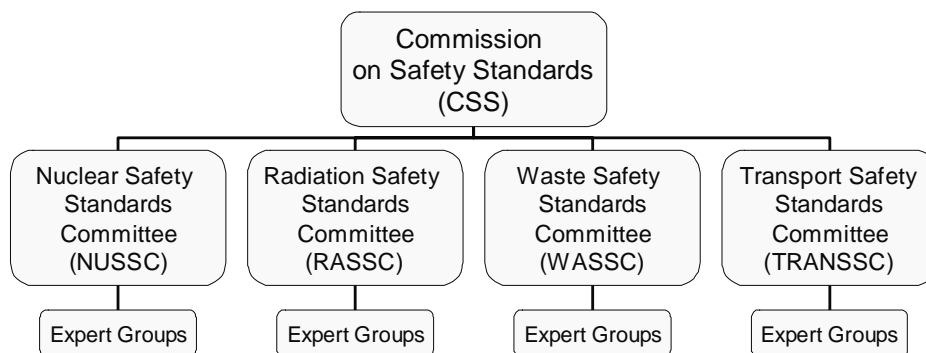
Benefits for a country from becoming a Contracting Party to the Joint Convention

- **Improvements in safety as an outcome of the review process**
- **Gain in knowledge through information exchange**
- **Improved credibility because of involvement in an international convention on safety**
- **Evidence of an open and transparent national approach**
- **Support in cases of malpractice in neighbouring States**
- **Greater influence in a regional context**
- **Possible technical assistance from other Contracting Parties**

HIERARCHY OF INTERNATIONAL STANDARDS



STANDARDS PREPARATION PROCESS



Scope of RADWASS

Safety in the management of all types of material, once declared as “waste”


- Pre-disposal management – waste collection, treatment, packaging, storage
- Decommissioning and associated waste management
- Discharge control
- Release of solid materials from control
- Disposal – near surface, geological disposal
- Management of U mining and milling waste
- Remediation of areas affected by residual waste

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Overview of the RADWASS document plan

Fundamentals		SS111-F (1995) The principles of radioactive waste management					
Requirements	GS-R-1 (2000) Legal and governmental infrastructure for nuclear, radiation, radioactive waste and transport safety	WS-R-2 (2000) Predisposal management of radioactive waste, including decommissioning	WS-R-1 (1999) Near surface disposal of radioactive waste	DS154 Geological disposal of radioactive waste	DS162 Cleanup of areas contaminated by past activities and accidents		
Guides		DS159 (WS-G-2.5) Predisposal management of low and intermediate level radioactive waste	WS-G-2.1 (1999) Decommissioning of nuclear power plants and research reactors	111-G-3.1 (1994) Siting of near surface disposal facilities	111-G-4.1 (1994) Siting of geological disposal facilities	DS172 Cleanup of areas contaminated by past activities and accidents	
		DS163 (WS-G-2.6) Predisposal management of high level radioactive waste	WS-G-2.2 (1999) Decommissioning of medical, industrial and research facilities	WS-G-1.1 (1999) Safety assessment for near surface disposal			
		SS111-G-1.1 (1994) Classification of radioactive waste	DS160 Management of radioactive waste from the use of radioactive materials in medicine, industry and research	WS-G-2.4 (2001) Decommissioning of nuclear fuel cycle facilities		DS277 (WS-G-1.2) Management of radioactive waste from the mining and milling of ores	
		DS62 Strategy for environmental and source monitoring for public protection purposes	DS292 Storage of radioactive waste				
			WS-G-2.3 (2000) Regulatory control of radioactive discharges to the environment				
		DS294 Safety assessment for nuclear and radiation facilities other than reactors and waste repositories					

note
Doc ID (year) : Published
DSxxx (Doc ID) : In print
DSxxx : Under development

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RADWASS features

Completion of current phase – 2004

Current emphasis:

- Safety Requirements on Geological Disposal
- Safety Guide on Specification of Radionuclide Content in Commodities requiring Regulation for Purposes of Radiation Protection
- Safety Guide on Strategy for Environmental Monitoring

Waste safety – still a developing situation

- Borehole disposal
- Long-term storage of waste
- Release of sites and buildings after decommissioning
- Protection of the environment

Global safety regime

- **International Conventions – legally binding – (i) nuclear safety, (ii) spent fuel and waste and (iii) emergencies**
- **International safety standards – recommendations**
- **Standards increasingly seen as global reference points and as a basis for demonstrating compliance with the conventions**

Safety Standards – a new scheme

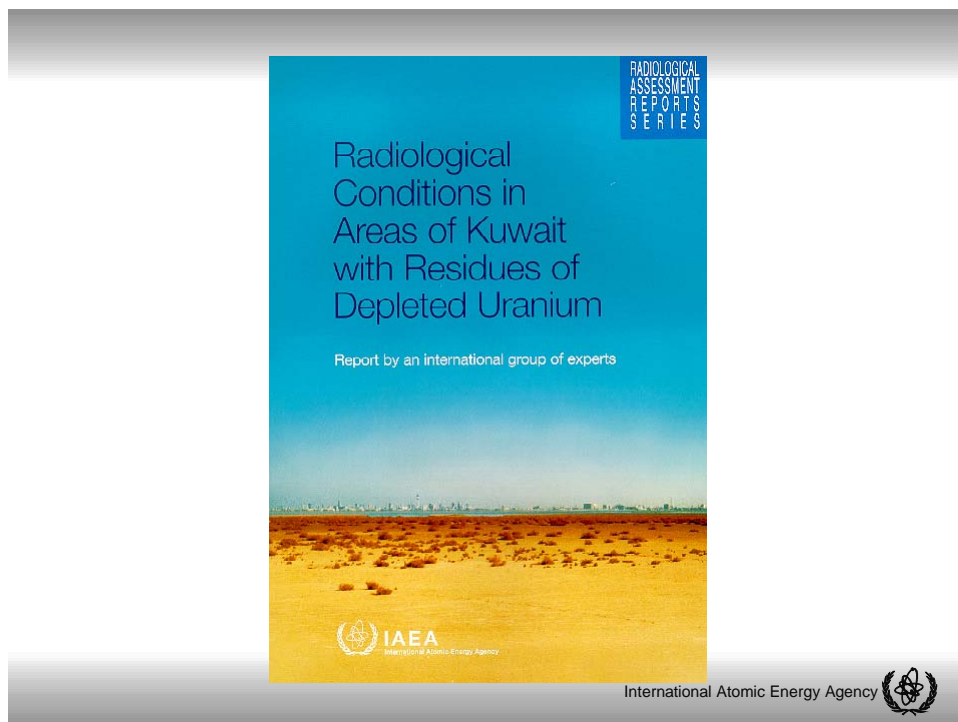
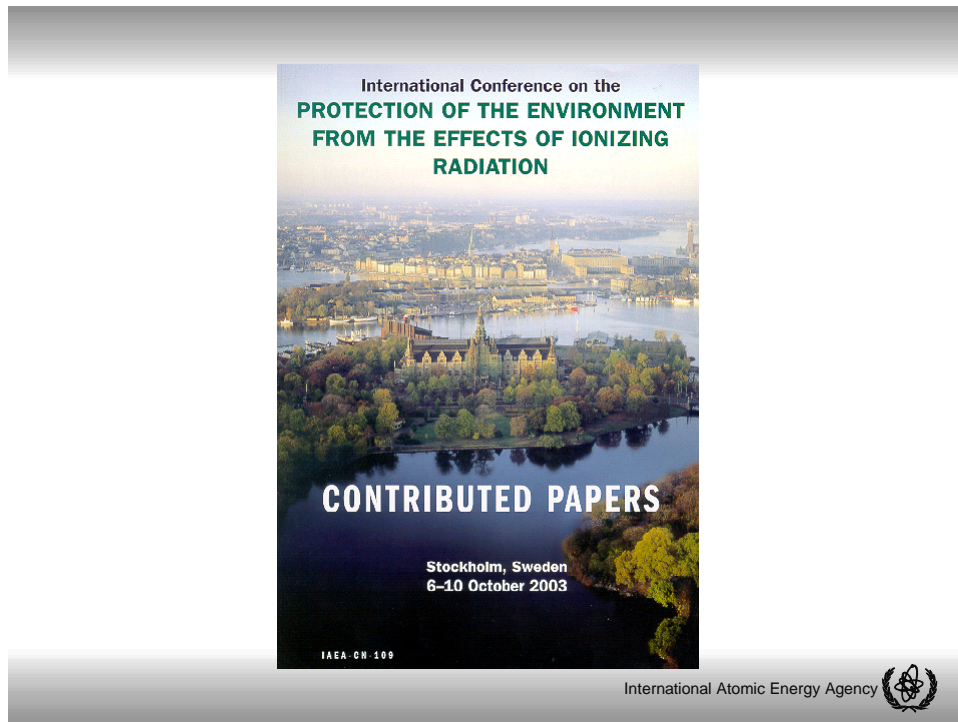
- **Five safety areas**
 - **Safety of nuclear facilities**
 - **Radiation protection and safety of radiation sources**
 - **Safe management of radioactive waste**
 - **Safe transport of radioactive material**
 - **General safety (cross-cutting themes)**

Thematic areas

- Legal and governmental infrastructure
- Emergency preparedness and response
- Management systems
- Assessment and verification
- Site evaluation
- Radiation protection
- Radioactive waste management
- Decommissioning
- Rehabilitation of contaminated areas

Facilities and activities

- Nuclear power plants
- Research reactors
- Fuel cycle facilities
- Radiation related facilities and activities
- Waste treatment and disposal facilities
- Transport of radioactive material



RADIOLOGICAL
ASSESSMENT
REPORT
SERIES

**RADIOLOGICAL CONDITIONS AT
REGGANE AND IN-EKKER
ALGERIA**



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IAEA-BIOMASS-6

**"Reference Biospheres" for
solid radioactive waste disposal**

*Report of BIOMASS Theme 1 of the
BIOSphere Modelling and
ASSESSment (BIOMASS) Programme*

*Part of the IAEA Co-ordinated Research Project on
Biosphere Modelling and Assessment (BIOMASS)*

BIOSphere Modelling and ASSESSment

BIOMASS

programme

July 2003



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LIST OF BIOMASS DOCUMENTS

Modelling the Migration and Accumulation of Radionuclides in Forest Ecosystems (IAEA-BIOMASS-1) (August 2002).

Testing of Environmental Transfer Models Using Data from the Atmospheric Releases of Iodine-131 from the Hanford site, USA, in 1963 (IAEA-BIOMASS-2) (March 2003).

Modelling the Environmental Transport of Tritium in the Vicinity of Long Term Atmospheric and Sub-Surface Sources (IAEA-BIOMASS-3) (March 2003).

Testing of Environmental Transfer Models Using Chernobyl Fallout Data from the Iput River Catchment Area, Bryansk Region, Russian Federation (IAEA-BIOMASS-4) (April 2003).

Modelling the Transfer of Radionuclides to Fruit (IAEA-BIOMASS-5) (July 2003).

“Reference Biospheres” for Solid Radioactive Waste Disposal (IAEA-BIOMASS-6) (July 2003).

Testing of Environmental Transfer Models Using Data from the Remediation of a Radium Extraction Site (IAEA-BIOMASS-7) (to be published).

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Environmental Modelling for Radiation Safety (EMRAS) – started September 2003

- **Working groups**
- **1 Revision of TRS-364, Handbook of parameter values for the prediction of radionuclide transfer in temperate environment**
- **2 Modelling of tritium and carbon-14**
- **3 Modelling the effectiveness of countermeasures used against releases of iodine-131**
- **4 Model validation of radionuclide transport in aquatic systems**
- **5 Modelling of NORM releases and remediation**
- **6 Assessment of the behaviour of radionuclides dispersed in urban environments**

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